REMARKS

This paper is in response to the Office Action mailed June 2, 2004. By this paper, claims 1-7 are cancelled without prejudice. New independent claim 22 has been entered and the dependency of the other pending claims has been changed so that they all now depend from claim 22. Accordingly, independent claim 22 and claims 8-21 are pending upon entry of this amendment.

Response to Rejection of Claim 2-21

All claims currently stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,681,384 to Liskowitz et al., U.S. Patent No. 4,268,316 to Willis, Jr., U.S. Patent No. 5,772,752 to Liskowitz et al., U.S. Patent No. 5,766,338 to Weber, U.S. Patent No. 5,536,310 to Brook et al., or U.S. Patent No. 5,928,420 to Oats et al. The cited art neither anticipates nor renders obvious independent claim 22, or the claims depending therefrom because the cited art fails to suggest a cementitious composition comprising Portland cement, hydrated lime and pozzolanic material in the ratios required in claim 22. Independent claim 22 combines the subject matter set forth originally in claims 6 and 7. The lime component is now specified as hydrated lime as per the examples.

Turning to the references, Liskowitz '384 relates to concrete, mortar, and other hardenable mixtures comprising cement and fly ash for use in construction (abstract; column 1, lines 12-14). The fly ash is exposed to an aqueous slurry of calcium oxide prior to its incorporation into the hardenable mixture to increase the rate of strength gain thereof (column 1, lines 14-18; column 3, lines 15-25; column 4, lines 39-45; and column 5, lines 38-47). In making the hardenable mixture, a slurry is prepared by mixing calcium oxide powder in water and then adding the fly ash thereto. The fly ash-CaO-water slurry is then mixed with cement, fine aggregate, and any other materials of a hardenable mixture, such as concrete or mortar (column 4, lines 55-66).

As stated in Applicants' specification, hydrated lime is defined as "A dry powder obtained by treating quicklime with water enough to satisfy its chemical affinity for water under the conditions of its hydration." (Specification, page 7, lines 10-13). Liskowitz

'384 does not teach or suggest a cementitious composition containing hydrated lime as defined in the current application. It is noted that the combination of fly ash and CaO used in the examples in Liskowitz is equal to 35 wt%. This, in turn indicates that the cement component must be present in an amount of 65% which is greater than that required in the instant claims. Also, if the fly ash and the lime were slurried together as per the Liskowitz disclosure, the mix would not be appropriate for bagging as a cementitious composition.

With respect to Wills, Jr. '316, a masonry cement is prepared by blending about 25-55% Portland cement, about 25-65% kiln dust, and about 10-25% fly ash (abstract; column 3, lines 40-42; column 5, lines 15-18; and claim 1). The masonry cement is mixed with sand and water and provided with an air-entraining agent to produce a workable mortar.

Wills, Jr., '316 fails to teach or suggest a hydraulic cement composition, which includes a specified range of hydrated lime, along with Portland cement and pozzolanic material which add up to 100 wt%. There is no teaching or suggestion of using hydrated lime in the masonry cement composition of '316. Additionally, the disclosed range of fly ash in '316 is taught to be about 10-25%, therefore failing to teach or suggest the greater than 45 wt% limitation as required in claim 22.

In the Background of the Invention section, Willis states that it is known to replace a portion of the cement with a hydrated lime. However, Willis goes on to emphasize problems of using hydrated lime and the desire to "eliminate the difficulties in the use of lime" and teaches a composition that does not use hydrated lime. Note, at col. 3 line 4-5, Willis eliminates "limestone". Thus, Willis actually teaches away from the invention of claim 22.

Liskowitz et al. '752 is directed to a hardenable mixture comprising cementitious materials and a fine aggregate, and may further comprise coarse aggregate (column 3, lines 34-39). The cementitious material may comprise fly ash, as well as cement, such as Portland cement, and the fine aggregate may comprise sand, and also fly ash (column 9, lines 19-44). The cementitious mixture comprises about 5%-35% fly ash (column 3, lines 48-51) that when mixed with fine aggregate, optional coarse aggregate, and water,

produces concrete or mortar (column 4, lines 15-34).

There is no teaching or suggestion of using hydrated lime in the cementitious material of '752. Additionally, the disclosed range of fly ash in '752 is taught to be about 5-35%, thereby failing to teach or suggest the greater than 45 wt% limitation as disclosed in claim 22. Therefore, in view of the above, applicants' invention is believed to be patentably distinct from and unobvious over '752.

Liskowitz '752 also fails to teach or suggest a cementitious composition as defined in claim 22 in that the Liskowitz invention in large part discloses the employment of a slurry which is pre-prepared by mixing a calcium oxide powder first in water and then adding the fly ash, and then this mixture is added to cement. As set forth above, hydrated lime is defined as a dry powder. Thus Liskowitz '752 also uses a specific method using components that differ substantially from those defined in claim 22.

Weber '338 discloses a composition for making a road base material, not relevant to the subject matter of the disclosure. Materials for making mortar and stucco, namely hydraulic cements, are treated separately in the art and one skilled in the art would not look to disclosures of road base materials for instruction. Further, Weber is lacking in any disclosure of hydrated lime and accordingly does not disclose a cementitious composition of any kind that falls within the ranges set forth for the components of claim 22.

Brook et al. '310 discloses a cementitious composition comprising 10-30 parts cementitious material (for example, Portland cement or granulated blast furnace slag cement), 50-80 parts fly ash, and 1.5-8 parts hydroxycarboxylic acid and/or salt thereof as essential components (column 1, lines 36-56; column 2, lines 32-33; and claims 1 and 19). The cementitious compositions can be used in making high performance mortars by adding sand and water thereto (column 3, examples 1 and 2).

Brooks et al. fail to teach or suggest a hydraulic cement composition that includes hydrated lime, along with Portland cement and specific pozzolanic material, in the ranges specified in claim 22 and there is no suggestion or motivation for using hydrated lime. Therefore, Brooks not only does not teach the required component ratios set forth in claim 22, but actually teaches away from the claimed composition of Applicants'

cementitious composition.

Oats '420 discloses a composition for alkali-reactive aggregate and for sulfate resistance. The Oats reference also does not envision using hydrated lime as required by claim 22.

Dependent claims 11-21 contain further limitations directed toward more specific cementitious compositions than those solicited in independent claim 22. Applicants submit that these claims are neither taught nor suggested in the cited art.

To be sure, each of the individual components set forth in independent claim 22 can be located somewhere in the prior art. Assuming agruendo that it would be proper to combine the prior art in order to constitute a *prima facie* case of obvious of this claim, Applicants' specification provides ample evidence of surprising or unexpected results. In this respect, the Examiner's kind attention is drawn to the efficacy data reported in the specification. For instance, in example 13(a) the tested mortar composition in accordance with the invention consumed less water to result in the desired slurry flow rate than conventionally available materials. Example 13(b) indicates that stucco example 3, similar to the mortar example shown in example 13(a), also consumed less water than commercially available samples.

Also, when compared with conventional mortars and stuccos, mortars and stuccos produced in accordance with the invention were less likely to effloresce than a variety of commercial samples (see example 13(c)). Further, the invention results in an increase in water resistance and strength as shown in examples 13(e) and 13(f) respectively of the specification. All the while, mortar and stucco compositions in accordance with the invention generate less heat than the tested conventional samples and are therefore less likely to burn the artisan's hands upon usage. All of this data indicates that the invention is truly unique and provides unexpected results in a variety of important engineering characteristics.

Conclusion

For all of the above reasons, it is respectfully submitted that instant application is now in proper form for allowance. Such action is accordingly solicited.

Should the Examiner determine that anything else is desirable to place this application in even better form for allowance, the Examiner is respectfully requested to contact the undersigned by telephone.

Respectfully Submitted,
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